Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1-6. (Canceled)

7. (Currently Amended) A method for fabricating a thermo-optical switch~~micromachined device~~, comprising:

forming a substrate;

forming an insulation layer over at least part of the substrate;

forming a silicon layer over at least part of the insulation layer;

forming a silicon structure in the silicon layer; and

forming a gap in the insulation layer that at least partially thermally isolates the silicon structure from the substrate,

wherein a surface of the substrate under the gap in the insulation layer is maintained substantially unetched and the gap in the resulting thermo-optical switch~~micromachined device~~ remains at least partially open.

8. (Original) The method of claim 7, wherein forming the gap in the insulation layer comprises removing a portion of the insulation layer with an etch that does not affect the substrate.

9. (Previously Presented) The method of claim 8, wherein forming the substrate comprises forming a silicon substrate and removing the portion of the insulation layer is with an etch that does not affect silicon.

10. (Original) The method of claim 7, wherein forming the substrate comprises forming a substrate of a first material, forming the insulation layer comprises forming a layer of a second material, and forming the gap in the insulation layer comprises removing a

portion of the insulation layer with an etch that is highly selective between the first and second materials.

11. (Original) The method of claim 10, wherein removing a portion of the insulation layer with an etch that is highly selective between the first and second materials comprises removing a portion of the insulation layer with an etch having a selectivity of about 20:1 or greater.

12. (Original) The method of claim 7, wherein forming the substrate comprises forming a substrate of silicon, forming the insulation layer comprises forming a layer of a dielectric material, and forming the gap in the insulation layer comprises removing a portion of the insulation layer with an etch that is highly selective between the dielectric material and silicon.

13. (Original) The method of claim 7, wherein forming the substrate comprises forming a substrate of silicon, forming the insulation layer comprises forming a layer of silicon dioxide, and forming the gap in the insulation layer comprises removing a portion of the insulation layer with an etch that is highly selective between silicon dioxide and silicon.

14. (Previously Presented) A method for fabricating a thermo-optical switch, comprising:

forming a substrate;

forming an insulation layer over at least part of the substrate;

forming a silicon layer over at least part of the insulation layer;

forming a silicon structure in the silicon layer; and

forming a gap in the insulation layer without affecting a surface of the substrate underlying the gap, wherein the gap of the resulting thermo-optical switch remains at least partially open.

15. (Original) The method of claim 14, wherein forming the gap in the insulation layer comprises removing a portion of the insulation layer with an etch that does not affect the surface of the substrate underlying the gap.

16. (Original) The method of claim 15, wherein forming the substrate comprises forming a silicon substrate and removing the portion of the insulation layer is with an etch that does not affect silicon.

17. (Original) The method of claim 14, wherein forming the substrate comprises forming a substrate of a first material, forming the insulation layer comprises forming a layer of a second material, and forming the gap in the insulation layer comprises removing a portion of the insulation layer with an etch that is highly selective between the first and second materials.

18. (Original) The method of claim 17, wherein removing a portion of the insulation layer with an etch that is highly selective between the first and second materials comprises removing a portion of the insulation layer with an etch having a selectivity of about 20:1 or greater.

19. (Original) The method of claim 14, wherein forming the substrate comprises forming a substrate of silicon, forming the insulation layer comprises forming a layer of a dielectric material, and forming the gap in the insulation layer comprises removing a portion of the insulation layer with an etch that is highly selective between the dielectric material and silicon.

20. (Original) The method of claim 14, wherein forming the substrate comprises forming a substrate of silicon, forming the insulation layer comprises forming a layer of silicon dioxide, and forming the gap in the insulation layer comprises removing a portion of the insulation layer with an etch that is highly selective between silicon dioxide and silicon.

21. (Currently Amended) A thermo-optical switch~~micromachined device~~, comprising:

a substrate;

an insulation layer formed over at least part of the substrate; and

a silicon layer formed over at least part of the insulation layer, the silicon layer including a silicon structure that is at least partially thermally isolated from the substrate by a gap in the insulation layer,

wherein a surface of the substrate under the gap in the insulation layer is substantially unetched and the gap of the resulting thermo-optical switch~~micromachined device~~ remains at least partially open.

22. (Currently Amended) The thermo-optical switch~~micromachined device~~ of claim ~~1~~21, wherein the substrate is made of silicon.

23. (Currently Amended) The thermo-optical switch~~micromachined device~~ of claim ~~2~~22, wherein the silicon layer is a single crystal silicon layer.

24. (Currently Amended) The thermo-optical switch~~micromachined device~~ of claim ~~3~~23, wherein the insulation layer is made of silicon dioxide.

25. (Canceled)

26. (Currently Amended) The thermo-optical switch~~micromachined device~~ of claim ~~5~~21, wherein the thermo-optical switch is a Mach-Zehnder switch.